

What is Claimed:

1. A method of upgrading a multistage scalable switching network, wherein the scalable switching network comprises N stages of switching elements, a plurality of internal ports, a plurality for external ports, and a plurality of internal connections, wherein the internal ports and external ports are coupled to one of the switching elements and the internal connections are coupled to two of the internal connections, comprising:

- a) providing a post-reconfiguration architecture comprising N stages of switching elements;
- b) adding new hardware comprising a plurality of internal ports as defined by the post-reconfiguration architecture;
- c) assigning to each internal port a corresponding port defined by the post-reconfiguration architecture;
- d) selecting an open port of the plurality of internal ports that is not coupled to a connection;
- e) breaking a first connection coupled to the corresponding port assigned to the open port, if the corresponding port assigned to the open port is coupled to said first connection.
- f) connecting the open port to the corresponding port assigned to the open port by coupling a second connection to the open port and to the corresponding port assigned to the open port ;
- g) repeating steps (d), (e) and (f) until each of the plurality of internal ports is coupled to a connection;
- h) selecting a selected port of the plurality of internal ports that is not coupled to the corresponding port assigned to said selected port;
- i) breaking a second connection coupled to the selected port;

j) breaking a third connection coupled to the corresponding port assigned to the selected port, if the corresponding port assigned to the selected port is coupled to said third connection;

k) connection the selected port to the corresponding port assigned to the selected port by coupling a fourth connection to the selected port and to the corresponding port assigned to the selected port; and

l) repeating steps (h), (i), (j), (k) until each port of the plurality of internal ports is connected to the corresponding port assigned to each port.

2. The method claim 1 wherein said new hardware comprises a plurality of new external ports and further comprising: m) activating the plurality of new external ports.

3. A RBCCG network based system comprising:

a RBCCG network with a plurality of input and output ports;

a plurality of input means each connected to an RBCCG input port; and

a plurality of output means each connected to an RBCCG output port.

4. A RBCCG network based systems as claimed in claim 3 where the input means is a CLEC Add/Drop Multiplexer.

5. A RBCCG network based system as claimed in claim 3 where the input means is content provider.

6. A RBCCG network based system as claimed in claim 3 where the input means is a communications provider.

7. A RBCCG network based system as claimed in claim 3 where the input means is a computer.

8. A RBCCG network based system as claimed in claim 3 where the input means is a data storage unit.

9. A RBCCG network based system as claimed in claim 3 where the input means is a network interface unit..
10. A RBCCG network based system as claimed in claim 3 where the input means is a cpu.
11. A RBCCG network based system as claimed in claim 3 where the input means is a memory unit.
12. A RBCCG network comprising:
- a plurality of routers each with a plurality of ports and
 - a plurality of communications links connect the router ports in a pre-determined manner.
13. A RBCCG network as claimed in claim 12 where portions of the plurality of routers are located in different CLEC nodes and at least one of the communications links is part of the CLEC.
14. A RBCCG network as claimed in claim 12 where portions of the plurality of routers are located in different CLEC nodes and where at least one portion of the plurality of routers corresponds to a column of the RBCCG network.
15. A RBCCG network as claimed in claim 12 where the plurality of communications links connect the router ports in a pre-determined manner via a patch panel.
16. A RBCCG network as claimed in claim 12 where the plurality of communications links connect the router ports in a pre-determined manner via a patch panel with indicator lights.
17. A RBCCG network as claimed in claim 12 where the plurality of communications links connect the router ports in a pre-determined manner via at least one electronically controlled crossbar.
18. A RBCCG network as claimed in claim 12 where the plurality of communications links connect the router ports in a pre-determined manner is selected on a link by link basis between a current and new pre-determined manner.